

### Abstract

Methods, computer programs, and database systems for analyzing one or more queries are disclosed. Queries may include one or more conditions and one or more sub-queries, with each sub-queries introduced by connecting condition. The method determines the satisfiability of the query, including the satisfiability of the connecting conditions and conditions in the sub-queries. Queries may include one or more conditions of the form  $(X+Y \text{ OP } C)$ . The method determines the satisfiability of the query, including the satisfiability of the conditions of the form  $(X+Y \text{ OP } C)$ .